

panuchus on the side of the neck, although these measure but 28mm., while on a cock Chicken of the same season they will average 65mm., and 45mm. on the hens.

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## BIRDS OBSERVED NEAR MINCO, CENTRAL OKLAHOMA.

BY ALEXANDER WETMORE.

From May 23 to June 2, 1905, I was at Minco in central Oklahoma devoting my attention to the study and collection of the various forms of bird-life found. At that time the region was still known as Indian Territory and great stretches of prairie had been newly broken. Though the country was well settled there was still much land in its original condition, and birds were very common. The period spent here corresponded with the end of migration and the beginning of the breeding season. The notes given refer in the main to breeding birds, concerning which there are few published records from Oklahoma.

The country in which I collected was diversified in its character. A small stream known as Boggy Creek passed near Minco; there was a large slough nearby, and three and one-half miles east was the South Canadian River. The latter stream is often dry for months at a time, showing merely an expanse of shifting sand that drives and drifts with the winds. At this period, however, it contained running water, and before the first of June flood water had carried away bridges crossing near Minco and farther down at Tuttle. Willows and rushes bordered the slough, and thickets and small tree growth followed the winding course of Boggy Creek. Dense growths of wild plum were common, and there were small groves in hollows on the rolling prairie. Cottonwoods grew along the South Canadian River, but few of them attained any great size. Fields in the river bottom that had been cultivated at one time were grown with weeds, while areas of unbroken prairie supported dense stands of grasses, with rosin weeds at intervals offering outlooks for the Grasshopper Sparrows.

On May 31, in company with Marvin Woodworth, I drove to Bacon's Ranch, not far from Leal, Oklahoma. Here we found high upland country, with gullies and ravines cutting into it. I had hoped to secure the Black-headed Vireo (*Vireo atricapillus*) here, but was disappointed. The prairie country traversed this day fairly swarmed with Nighthawks, and among those collected two forms were identified.

In the town of Minco yards were planted in trees and some lots were given over to growing orchards. These were attractive to many birds that fed and nested fearlessly about the houses. During the long hours passed in preparing specimens and writing notes, I heard Bell's Vireos, Nonpareils, and Mockingbirds singing constantly, and the birds themselves were often in sight; while species familiar to me in more northern localities were equally common. The breeding birds near Minco presented a curious admixture of southern, eastern, and western elements. *Muscivora forficata*, *Thryomanes b. crypus*, and *Penthestes c. agilis* may be enumerated as lower austral forms here not far from the northern limit of their ranges. Among eastern (and northern) breeding birds may be mentioned *Dryobates p. medianus*, *Myiochanes virens*, *Agelaius p. predatorius*, *Sturnella m. magna* and *Icteria v. virens*. And among western forms were *Zenaidura m. marginella*, *Otocoris a. leucolaema*, *Sturnella neglecta*, *Chondestes g. strigatus*, *Guiraca c. lazula* and *Mimus p. leucopterus*.

In the following list notes are given on 62 species and subspecies of birds:

1. *Sterna antillarum antillarum* (Lesson).—Least Tern.

Fairly common. Three adult males were taken. The Least Tern was found from May 24 on along the South Canadian River. Here they worked systematically over the water with quick, graceful flight, on the lookout for the minnows that formed their food. At times one or two came to a slough near town in company with Black Terns. On May 26 they were mating and were often seen in pairs, pursuing each other with harsh call notes, high in the air. No nests were found. It may be that these birds breed farther north on the Cimarron or Arkansas Rivers and were here in migration.

The South Canadian usually goes dry in summer and would not furnish a certain food supply throughout the season.

2. *Hydrochelidon nigra surinamensis* (Gmelin).—Black Tern.

Common; migrating. Five were collected. May 26 twenty-five or more were seen over a small slough, beating gracefully back and forth and dipping into the water in feeding. When I waded out the flock at first kept at a distance, but in a few minutes the birds were all around me. All were in full plumage. A few more were seen here on May 29, among them a male in molt from winter to breeding plumage. This bird I shot. All that I examined had fed on insects.

3. *Querquedula discors* (Linnaeus).—Blue-winged Teal.

An adult male was taken on May 29 on a small slough. This individual had an injured wing so that there is no reason for considering it a breeding bird.

4. *Marila affinis* (Eyton).—Lesser Scaup Duck.

Two adult females were taken, one on May 26 and one on May 29. On these dates four or five others were observed on the slough. One of the birds taken had been crippled and it may be that the others were in the same condition. All of those seen were females. I have seen other bluebills in early summer in localities south of their normal breeding range, but have always considered them cripples from shooting, birds that have been injured in some other way, or individuals that for some reason are barren and have been left behind. Summer specimens that I have collected at Lake Koshkonong, Wisconsin, (June 16), and at the Laguna de Guánica, Porto Rico, (May 26) have been birds with injured wings. Never have I seen any indication of their breeding, though this has been recorded in various localities.

5. *Branta canadensis canadensis* (Linnaeus).—Canada Goose.

On May 26 a Canada goose was seen flying north up the South Canadian River.

6. *Fulica americana* Gmelin.—Coot.

Fairly common on the slough. May 26 an adult female was taken. May 29 I found about twenty-five here and considered them breeding birds. They spent most of their time hidden in the rushes of the marsh, but when flushed went out into open water. Their loud notes were heard often.

7. *Helodromas solitarius* (Wilson).—Solitary Sandpiper.

On May 25 and 27 single birds were heard calling in flight during the evening.

8. *Actitis macularia* (Linnaeus).—Spotted Sandpiper.

One seen along the South Canadian River May 26.

9. *Oxyechus vociferus vociferus* (Linnaeus).—Killdeer.

A few pairs were breeding in wet localities near Minco. Individuals were recorded May 25 and May 26.

10. *Colinus virginianus virginianus* (Linnaeus).—Bob-white.

Quail were common in the rolling country west of Minco, and at this season males were whistling and calling from the borders of the canyons. They were seen often running along the roads and when startled flew over into the wheat fields that extended on either side. Clumps of sumac along the canyons were favorite hiding places, from which they flushed with roaring wings. Females must have been incubating at this time as few were seen. Two adult males were collected near Leal on May 31. These show no approach to *C. v. texanus*.

11. *Zenaidura macroura marginella* (Woodhouse).—Western Mourning Dove.

Abundant. These doves were breeding at this season. One set (probably incomplete) containing a single fresh egg was collected from a nest made of a few rootlets and bits of grass placed on the ground in a cornfield. Another set of two eggs (fresh) was taken from a nest placed two feet from the ground on a mass of driftwood along the South Canadian River. Both of these were taken on May 26. An adult male taken May 31 is typical of this subspecies.

12. *Cathartes aura septentrionalis* Wied.—Turkey Vulture.

A common species that was seen daily.

13. *Buteo borealis borealis* (Gmelin).—Red-tailed Hawk.

Red-tailed hawks were fairly common. They were recorded on May 23 and 29.

14. *Coccyzus americanus americanus* (Linnaeus).—Yellow-billed Cuckoo.

Tolerably common. An adult female was taken on May 23 and another on May 29. The birds were found in small groves with dense undergrowth. The two specimens taken measure as follows:

No. 1123 (Coll. A. W.) ♀, May 23, 1905, wing 145 mm., tail 139.5 mm.

No. 1160 (Coll. A. W.) ♀, May 29, 1905, wing 141.3 mm., tail 130.5 mm.

15. *Streptoceryle alcyon alcyon* (Linnaeus).—Belted Kingfisher.

A few kingfishers were nesting near Minco. I saw them fishing about a small slough and found several nesting holes in a railroad cut near the South Canadian River. May 23 a bird was seen perched near these nests with a minnow in its bill so that there may have been young at that date. An adult male collected May 24 has the following measurements:

Length, 299 mm.; wing, 154 mm.; tail, 87.5 mm.; exposed culmen, 58 mm.; tarsus, 10 mm.

16. *Dryobates pubescens medianus* (Swainson).—Downy Woodpecker.

On May 31 a pair of these woodpeckers was taken in a small canyon near Leal, and with them a single young male, recently out of the nest. All were working about in the branches of a cottonwood. The two adult birds have the following measurements:

No. 1183 (Coll. A. W.) ad. ♂, wing 92 mm., tail 52 mm.

No. 1197 (Coll. A. W.) ad. ♀, wing 93 mm., tail 53 mm.

These two birds, while intermediate in measurements between *pubescens* and *medianus* are nearer the latter form. The underparts are much stained, but the color is that of *medianus*. The breast and abdomen are clearer white than in specimens of *D. p. pubescens* from Christ Church Parish, South Carolina, and from Florida, examined in the United States National Museum. The immature bird is in juvenal plumage, with the black of the upperparts tinged with slate and the feathers of occiput and crown tipped with red. The nuchal band is barely indicated.

17. *Melanerpes erythrocephalus* (Linnaeus).—Red-headed Woodpecker.

Red-heads were tolerably common about scattered groves of trees on the prairie and were seen in the town of Minco.

18. *Centurus carolinus* (Linnaeus).—Red-bellied Woodpecker.

A few Red-bellied Woodpeckers were found in small groves near Minco (recorded here on May 24). On May 31 several were found in the wooded canyons west of town.

19. *Colaptes cafer collaris* Vigors.—Red-shafted Flicker.

Flickers were rare at this season. Only two were seen, one May 26 and another May 31.

20. *Chordeiles virginianus howelli* Oberholser.—Howell's Nighthawk.

This is the breeding form of Nighthawk in the region around Minco. It is represented by skins of eight males taken May 24, 26 and 31 and a female secured on May 31. Three of the birds taken (Coll. A. W. Nos. 1132, 1186, and 1188) are grayer and have less ochraceous in the pale markings of the dorsal region than typical *C. v. howelli*, in this verging toward *sennetti*. However, all three have the ground color of the upper parts dark with a more brownish cast than is found in *sennetti* and I consider them merely pale individuals of *C. v. howelli*. All of the other skins are typical of this form.

Nighthawks were abundant during the period that I collected at Minco and were seen daily. Many were found perched on drift

wood along the South Candian River, and on the uplands they were seen on the ground or on fence posts. On May 31 one was seen sitting across a wire on a fence as any perching bird might do. When flushed it flew to another wire and again alighted across it. The courtship antics of the males were observed daily. Mounting sixty or eighty feet above the female the male would turn and dash down past her, turning abruptly, decurving the wings strongly, and at the same time producing the familiar whirring boom. Their loud call notes came to my ears constantly. No nests were seen.

21. *Chordeiles virginiaus henryi* Cassin.—Western Nighthawk.

A male secured May 24 and two females shot on May 31 represent this form. The male and one female are typical, while the other female is intermediate between *C. v. henryi* and *howelli*. In the first two the upper parts are strongly suffused with tawny and in all three the paler markings are much more rufous or reddish than in *howelli*. These birds were without doubt migrants following up the South Canadian River to breeding grounds about its headwaters in New Mexico. This is the most eastern record for this subspecies as restricted by Oberholser, and the birds secured were some distance from their breeding range.<sup>1</sup> Nighthawks are often late migrants so that these May specimens are not notable in respect to the time at which they were taken.

22. *Muscivora forficata* (Gmelin).—Scissor-tailed Flycatcher.

Common. One male was secured May 24, one female on May 25 and four males on May 26. These birds were found in the open country usually where small trees or bushes afforded perches. The males were conspicuous, the females seen seldom. From the number of these flycatchers observed on May 26, I believed that part were still in migration. The call note was a harsh, sharp note, somewhat like that of *Tyrannus tyrannus*. The flight was straight, with the tail at times opening and closing. Males in display often varied this direct flight by a series of quick zigzags up and down, with the tail opening and closing and the bird calling loudly, a crazy skydance brilliant with vivid color. The whole performance reminded me of one of the "nigger chasers," whose blazing, erratic course delights the small boy on our great national holiday. Males seemed conscious of their conspicuous appearance and were wild. Often they flew ahead of me out of range, lighting on small bushes, weed stems, or even on the ground when out on the open prairie. May 25 I found a nest half completed, built of down from the cottonwoods and strippings from weathered weed stems. It was placed in a bush six feet from the ground, with no attempt at con-

<sup>1</sup> Oberholser, H. C., Monograph of Genus *Chordeiles*, Bull, 86, U. S. Nat. Mus., 1914, p. 65.



cealment. No other nests were observed. These birds are known locally as Scissor-tails and Birds of Paradise.

The males collected have the inner webs of the outer pair of rectrices slightly constricted for a short distance above the terminal black tip. In addition the outer webs of these same feathers are broadened distally, forming a somewhat expanded tip. The single female examined has no trace of a concealed colored area on the crown.

23. *Tyrannus tyrannus* (Linnaeus).—Kingbird.

A common species. No other kingbird was found about Minco.

24. *Myiarchus crinitus* (Linnaeus).—Crested Flycatcher.

A common bird in the shade-trees of Minco and in the small groves scattered through the country. On June 1 a female started a nest in a bird house placed on a pole in a garden at my uncle's home in town. The male gave no assistance in carrying material.

25. *Myiochanes virens* (Linnaeus).—Wood Pewee.

Tolerably common; breeding. An adult male was collected on May 23.

26. *Empidonax virens* (Vieillot).—Acadian Flycatcher.

One seen on May 31.

27. *Otocoris alpestris leucolaema* (Coues).—Desert Horned Lark.

Common, breeding. These Horned Larks were found everywhere across the rolling prairie, especially on the higher portions away from streams. A few frequented cornfields in which plant growth was still small. Males were singing constantly, and to my ear the song was slightly different from that of *O. a. praticola* of eastern Kansas. Once I watched a male singing in flight as he sustained himself against a strong wind for three or four minutes and then pitched quickly to earth. Broods of young with their parents were seen in the roads on June 2. A male and a female were collected on May 24, and another female was taken May 25. The male, while not typical, is nearer *leucolaema* than *praticola*, toward which it tends. There is practically no yellow in the superciliary stripe, but above it is much paler than breeding males of *praticola* from Independence, Kansas. The females resemble typical *leucolaema* much more closely than does the male. They are very slightly darker than the average of that form, but may be distinguished as *leucolaema* without hesitation. Mr. H. C. Oberholser has been kind in examining these birds for me.

28. *Cyanocitta cristata cristata* (Linnaeus).—Blue Jay.

Tolerably common. Seen on May 25 and 27.

29. *Corvus brachyrhynchos* Brehm.—Crow.

Tolerably common. Crows were seen on May 24 and 28. No specimens were taken. Examination of breeding birds will prob-

ably show that they are *Corvus b. paulus* Howell.<sup>1</sup> During winter typical *Corvus b. brachyrhynchos* should occur.

30. *Molothrus ater ater* (Boddaert).—Cowbird.

Common. Eight were noted on May 23 and others were seen each day until my departure. On May 24 an egg was found in the nest of a Bell's Vireo.

31. *Xanthocephalus xanthocephalus* (Bonaparte).—Yellow-headed Blackbird.

Tolerably common. May 25 I found a small flock of females and young in juvenal plumage feeding in a newly cut alfalfa field. An adult female was collected. Other yellow-heads were seen on May 26.

32. *Agelaius phoeniceus predatorius* (Wilson).—Red-winged Blackbird.

Common. Red-wings were breeding about the slough below the town of Minco. An incomplete set of two eggs (fresh) was collected there on May 26. The nest was placed two feet from the water in the top of a small willow at the border of the pond. An adult male collected May 23 agrees in subspecific characters with *A. p. predatorius*. The wing measures 118 mm., the tail 93 mm., and the culmen (from base) 23 mm.

33. *Sturnella magna magna* (Linnaeus). Meadowlark.

Common everywhere about Minco. Breeding. Four were seen May 23 and individuals were observed daily from that date until my departure. This species was the dominant meadowlark, greatly outnumbering the western species. No specimens were collected. It is possible that the records here given belong under some other subspecies than *S. m. magna*.

34. *Sturnella neglecta neglecta* Audubon.—Western Meadowlark.

Tolerably common; breeding. Western Meadowlarks were found scattered over the prairie about Minco. Birds were seen on May 23 and 25. On May 26 I found a mated pair near the South Canadian River and collected the female. On May 31 a few others were found in driving to Leal. In the area covered both species of meadowlark breed, but the western form is much more rare than the eastern.

35. *Icterus spurius* (Linnaeus).—Orchard Oriole.

Common; breeding. Eight of these birds were observed May 23, and the species was seen daily during my stay at Minco. A male and a female were taken May 24. On May 26 I collected a set of five fresh eggs near the South Canadian River. Orioles were common there in the cottonwoods, but were difficult to see as the strong

<sup>1</sup> Howell, A. H., Proc. Biol. Soc. Washington. XXVI, 1913, pp. 199-202.



wind kept the leaves in constant motion. As I watched, a female Orchard Oriole flew into the top of a small cottonwood, and on looking closely I discovered a nest. Several sticks thrown into the tree failed to frighten off the parent nor would she leave until I began to climb the trunk. The nest was made of grass stems that had been gathered while green, but which were now faded. It was attached by the rim, and small twigs were woven firmly into the sides and bottom. The nest contained five fresh eggs.

The male bird collected is in second year plumage, but has the upper and lower tail coverts, abdomen and lower chest washed with chestnut, a few black markings on crown and scapulars, and the external rectrix on the right side black.

36. *Icterus galbula* (Linnaeus).—Baltimore Oriole.

Fairly common; breeding. One was seen May 24 and an adult male was collected May 26 in the cottonwoods along the South Canadian River.

37. *Quiscalus quisculus acneas* Ridgeway.—Bronzed Grackle.

Common; breeding. An adult female in rather worn plumage was taken May 25. On this day I found a breeding colony numbering between thirty and forty pairs in a small grove. The nests were placed from seven to thirty feet from the ground. Most of them contained young. I collected one set of four fresh eggs from a nest about seven feet from the ground. This nest was made of grass, weed stems and leaves, with a cup of hardened mud lined with fine grasses. A second set that I collected was so badly incubated that it could not be preserved.

38. *Astragalinus tristis tristis* (Linnaeus).—Goldfinch.

A few seen.

39. *Passer domesticus* (Linnaeus).—House Sparrow.

Common in the town of Minco.

(TO BE CONCLUDED.)